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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,761	02/10/2006	Kenichi Mori	13241/14	5641

23838 7590 05/10/2010

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EXAMINER	
ROBINSON, CHANCEITY N	
ART UNIT	**PAPER NUMBER**
1795	

MAIL DATE	DELIVERY MODE
05/10/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/567,761	MORI ET AL.	
	Examiner	Art Unit	
	CHANCEITY N. ROBINSON	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 January 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *01/26/2010*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The Applicant's request for reconsideration filed on January 29, 2010 was received. Claims 1, 13, 17 and 20 have been amended. Claim 2 has been canceled. The subject matter of Claim 2, which was previously indicated as allowed, is now rejected due to the discovery of new art found in the submission of the IDS filed 01/26/2010

2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action issued on November 30, 2009.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1, 3, 4, 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason (US 4,950,052) and further in view of

Kawasato et al. (US 6,902,791 B2) as evidenced by BYK Additives & Instruments Data Sheet (2008).

Regarding claims 1, 3, 4, 9 and 13, Kuwabara discloses a near infrared absorption material comprising: a transparent substrate, and at least a transparent resin layer formed thereon, containing a near infrared absorption dye (800 to 1200 nm) and a dye selectively absorbing a light of 550 to 630 nm wavelength region (abstract) .Kuwabara discloses a resin is provided on a transparent substrate film [0026-0027]. Kuwabara discloses the near infrared absorbing dye comprises an aromatic diimmonium salt type compound [0035 & 0038]. Kuwabara discloses the light transmittance of 10% to 60% in a range of 550 nm to 600 nm in wavelength [0052], and a light transmittance of not higher than 20% in a range of 820 nm in a wavelength to 1100 nm in a wavelength [0037]. Further, Kuwabara discloses a coating solution containing near-infrared dye, resin, and organic solvent on a transparent substrate film, followed by drying (heating) to form a near-infrared absorption layer [0026, 0053-0057 and examples].

Kuwabara does not disclose a composition containing surfactant having an HLB in a range of 2 to 12 is contained at 0.01% to 2.0% by mass in the composition. However, Fergason et al. disclose a near-absorbing film comprising a containment medium (column 1, lines 6-10 and abstract). The film substrate is transparent (column 2, lines 11-24 and column 3, lines 53-64). The containment film contains a surfactant with a HLB of 12 (column 5, line 40- column 6, line 19) and a pleochroic dye and/or cyanine dye (column 9, lines 26-38). Also, Fergason et al. recognize that the amount of surfactant used for emulsifying the liquid crystal material should be the minimal amount needed to stabilize the light crystal film and control the liquid crystal size. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

invention to modify/optimize the surfactant to yield desired amount to be used in the composition. Discovery of optimum value of result effective variable in known process is ordinarily within skill of art. *In re Boesch*, CCPA 1980, 617 F.2d 272, 205 USPQ215. Further, Examiner notes that the pleochroic dye absorbs in the infrared or near infrared energy (region; 800 nm to 1200 nm) as evidenced by Fergason (US 5,319,481) in column 26, lines 34-38. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include surfactant having an HLB in a range of 12 is contained at 0.01% to 2.0% by mass in the composition of Kuwabara, because Fergason et al. teach the surfactant enables the stability and durability of the film.

Further regarding claim 1, neither Kuwabara nor Fergason et al. explicitly disclose the surfactant is a silicone type surfactant or fluorine type surfactant. However, Fergason et al. do recognize absorption films can contain a surfactant with a HLB of 12 (column 5, line 40- column 6, line 19) and the HLB coefficient reflects the solubility of a substance in oil and water. Further, Kawasato et al. disclose absorption film (abstract) comprising a near-infrared absorbent dye (column 3, lines 33-51) and a silicone type extender (BYK-300; see table 1 in column 13, line 17). Kawasato et al. do not explicitly disclose the silicone type extender as a surfactant. However, BYK-300 is a surface-active agent as evidenced by BYK Additives & Instruments Data Sheet. Therefore, the silicone type extender disclosed by Kawasato et al. meets the limitation of an infrared absorption layer comprising a silicone type surfactant as recited in claim 1. Also, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a silicon type extender as the localized surfactant of Kuwabara in view of Fergason et

al. because Kawasato et al. teach the silicon type extender aids in improving the surface properties of the film (see Tables 2 and 3).

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Kawasato et al. (US 6,902,791 B2) as evidenced by BYK Additives & Instruments Data Sheet (2008) as applied to claims 1, 3, 4, 9 and 13 above, and further in view of Sato et al. (JP 2004-202899).

Regarding claim 5, Kuwabara in view of Fergason et al. discloses the film as supplied to claim 1 above, but fails to disclose a transparent substrate film made of a laminated film made of at least three layers or more or an ultraviolet layer. Sato et al. discloses a similar transparent, laminating polyester film that contains that is made of three layers (paragraph [0008]), and an ultraviolet ray absorbent (paragraph [0014]) is provided within the inner layer (paragraphs [0008] and [0013]). The laminated film will have the capacity to cut-off ultraviolet rays so that decomposition will not take place during film production (paragraph [0004]). It would have been obvious to one of ordinary skill in the art to use the transparent film of Sato et al. in place of the transparent substrate film of Kuwabara to further enhance the capacity to cut-off ultraviolet rays in order to prevent the decomposition of the film during its production.

7. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Kawasato et al. (US 6,902,791 B2) as evidenced by BYK Additives & Instruments Data Sheet (2008) as applied to claims 1, 3, 4, 9 and 13 above, and further in view of Taki et al. (US 6,703,138).

With respect to claims 6 and 7, Kuwabara in view of Fergason et al. disclose the film as supplied to claim 1 above as well as an resin intermediate layer between the image forming a layer and substrate (paragraph [0195]), but fail to disclose the type of resin and acid value of that resin. Taki et al. discloses an adhesive laminated film that includes a acrylic resin with acid value of at least 200 eq./t along with polyester resins, or a copolymer (including block and graft copolymers - column 4, lines 60-61) of two or more of these resins and contains at least one monomer that comprises an acid anhydride containing a double bond (column 5, lines 22-29). If the acid value is lower than 200 eq./t, the acrylic resin is not sufficiently water soluble or water-dispersible causing polar groups to remain unchanged therefore lowering the water resistance of the coating layer (column 5, lines 5-14). Further, the use of graft polymers has been proposed to improve the adhesion of polyester films (column 1, lines 31-38). It would be obvious to one of ordinary skill in the art to include adhesive layer of Taki et al. in place of intermediate layer of the image forming material of Kuwabara in view of Fergason et al. to further enhance water resistance and the adhesion of the coating layer.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Kawasato et al. (US 6,902,791 B2) as evidenced by BYK Additives & Instruments Data Sheet (2008) as applied to claims 1, 3, 4, 9 and 13 above, and further in view of Oya (US 2003/0186040).

With respect to claim 8, Kuwabara in view of Fergason et al. disclose the film as supplied to claim 1 above, but fails to disclose the light transmission of the near-infrared absorption film. Oya discloses a similar near-infrared ray film that comprises a near-infrared light absorber (paragraph [0038]), glass substrate (paragraph [0170)], a resin (paragraph [0044]), and surfactant

(paragraph [0145]) wherein the film has a total transmittance of 60% or more between the wavelengths of 400 to 650 nm (paragraph [0034]) and transmittances at 850 nm and 950 nm to 20% or less (paragraphs [0027] and [0036]). When total transmittance is lower than 60% of wavelengths between 400 to 600 nm, the entire image becomes dark and power consumption for achieving brightness increases (paragraph [0034]). When the transmittances for near infrared rays having wavelengths of 850 nm and 950 nm are higher than 20%, near infrared rays radiated from the plasma display may not be shielded completely, whereby the peripheral equipment of the plasma display may malfunction (paragraph [0027]). It would be obvious to on of ordinary skill in the art to use a film having the light transmittance properties of the near-infrared film of Oya in the near-infrared film of Kuwabara in view of Fergason et al. to prevent the production of dark images and possible malfunction of the peripheral equipment of the plasma display.

9. Claims 10 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Kawasato et al. (US 6,902,791 B2) as evidenced by BYK Additives & Instruments Data Sheet (2008) as applied to claims 1, 3, 4, 9 and 13 above, and further in view of Moriwaki et al. (US 2003/0021935).

With respect to claims 10 and 24, Kuwabara in view of Fergason et al. disclose the film as supplied to claim 1 above, but fails to disclose an anti-reflective layer. Moriwaki et al discloses a laminated film that comprises a resin [0049], colorant [0046] and [0047] layer provided on a substrate film [0060] wherein an antireflection layer is formed on one side of the substrate and where the colored adhesive (colorant layer) is formed on the other side of the substrate [0060]. The laminated film has the colorant layer formed on the opposite side to the

antireflective layer (paragraph [0061]). Further, the laminated film is used so that the antireflection layer is on the observer side, and the colorant layer (or the colored adhesive layer) is on the display device (such as cathode ray tube) side (paragraph [0061]). The use of an antireflective layer can prevent reflection on the surface of the panel glass and make the brightness of an image more uniform regarding production of CRT (paragraph [0007]). It would have been obvious to one of ordinary skill in the art at the time of the invention to use an antireflective layer as disclosed by Moriwaki et al. within the film of Kuwabara in view of Fergason et al. to prevent the reflection of the surface of the panel glass of a CRT display and provide a more uniform image.

10. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Kawasato et al. (US 6,902,791 B2) as evidenced by BYK Additives & Instruments Data Sheet (2008) as applied to claims 1, 3, 4, 9 and 13 above, and further in view of Kumano et al. (JP 2003-127310).

With respect to claims 11 and 12, Kuwabara in view of Fergason et al. disclose the film as applied to claim 1 above, but fails to disclose a near-infrared film roll. Kumano et al. discloses the process for preparing a cavity-containing polyester- based film roll in which the total color difference (E) in the film roll is 1.0 (paragraph [0020]) or less and wherein the color difference is a measurement incorporating the average color tone value, L (paragraph 0020). If the color difference is too large, then the color tone fluctuation within the lot of a film roll will become large therefore spoiling the design nature of the patterned printing layer and the stability of the film (paragraph [0020]). To make the color difference smaller, it is important to decrease the

segregation of the material inside to receive proper distribution of the color pigment (paragraph [0021]). It is the examiner's position that the color difference can be obtained using any said length or width because stretching and widening film can be performed to obtain any desired color difference. Also, color tone is also dependent upon the amount of color pigment within the film that will also affect the color difference. It would have been obvious to one of ordinary skill within the art at the time of the invention to provide a film roll comprising the image forming material of Kuwabara in view of Inno et al. and having a color difference of 1.0 or lower by measuring the color tone of the film as taught by Kumano et al. to preserve the design nature of the patterned printing layer and the stability of the film.

11. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Kawasato et al. (US 6,902,791 B2) as evidenced by BYK Additives & Instruments Data Sheet (2008) as applied to claims 1, 3, 4, 9 and 13 above, and further in view of Kubo (US 6,770,430).

With respect to claim 14, Kuwabara in view of Fergason et al. disclose the film (image forming material) as applied to claim 13 above, but fail to disclose a multi-stage drying after coating a film on a substrate. Kubo discloses a thermally processed image forming material wherein a coating of material is applied to a substrate and dried with from 25 to 40 degrees C for (at a constant drying rate) and then heated again to 80 degrees C (paragraph [0204]). For preventing uneven processing due to dimensional changes, it is preferred to heat the material the material at 80-115 degrees C for 5 seconds then heating the material from 110 to 140 degree to produce the image (multi-stage heating) (column 29, lines 35-39). It would have been obvious to one of ordinary skill within the art at the time of the invention to apply a multi-stage heating

process as disclosed by Kubo et al. to the image forming material of Kuwabara in view of Fergason et al. to prevent uneven processing in the production of an image.

12. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Kawasato et al. (US 6,902,791 B2) as evidenced by BYK Additives & Instruments Data Sheet (2008) as applied to claims 1-4, 9 and 13 above, and further in view of Ogawa et al. (US 2004/0071883).

With respect to claims 15 and 16, Kuwabara in view of Fergason et al. disclose the film (image forming material) as applied to claim 13 above but fail to disclose the use of reverse gravure method in applying forming material. Ogawa et al discloses a method and apparatus for coating a thin film comprising a reverse gravure coating type roll (paragraph [0033] and Figure 1) wherein the diameter of the gravure roll (1)in Figure 1 not smaller than 15mm (paragraph [0091]). In the case when the diameter of the gravure roll falls below 15 mm, when the doctor blade (3) is pressed against the gravure roll (1), the roll is bent so much causing unevenness of coating due to the rotation of the roll (paragraph [0091]). It would have been obvious to one of ordinary skill in the art at the time of the invention to use reverse gravure method with a diameter of 15 mm or more as disclosed within Ogawa et al. in applying the image forming material Kuwabara in view of Fergason et al. to prevent unevenness of the coating to a substrate.

13. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Kawasato et al. (US 6,902,791 B2) as evidenced by BYK Additives & Instruments Data Sheet (2008) as applied to claims 1, 3, 4, 9 and 13 above, and further in view of Kumano et al. (JP 2003-127310).

However, Kuwabara in view of Fergason et al. disclose a process for preparing a film roll that has a maximum color difference of 1.0 or smaller. Kumano et al. discloses the process for preparing a cavity-containing polyester- based film roll in which the total color difference (E) in the film roll is 1.0 (paragraph [0020]) or less and wherein the color difference is a measurement incorporating the average color tone value, L (paragraph 0020). If the color difference is too large, than the color tone fluctuation within the lot of a film roll will become large therefore spoiling the design nature of the patterned printing layer and the stability of the film (paragraph [0020]). To make the color difference smaller, it is important to decrease the segregation of the material inside to receive proper distribution of the color pigment (paragraph [0021]). It is the examiner's position that the color difference can be obtained using any said length or width because stretching and widening film can be performed to obtain any desired color difference. Also, color tone is also dependent upon the amount of color pigment within the film that will also affect the color difference. It would have been obvious to one of ordinary skill within the art at the time of the invention to prepare a film roll comprising the image forming material of Kuwabara in view of Fergason et al. wherein the film has a color difference of 1.0 or lower by measuring the color tone of the film as taught by Kumano et al. to preserve the design nature of the patterned printing layer and the stability of the film.

14. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Kawasato et al. (US 6,902,791 B2) as evidenced by BYK Additives & Instruments Data Sheet (2008) as applied to claim 17 above, and further in view of Iwasaki et al. (US 4,948,635)

With respect to claim 18, Kuwabara in view of Fergason et al. disclose the film as applied to claim 1 above along with drying of the film (paragraph [0219]) but fails to disclose the use of a gravure apparatus in applying coating solution. Iwasaki et al. discloses a gravure coating device and method wherein the velocity of the gravure roll and of the web affects the thickness of the application of the coating agent (column 12, lines 30-35 and FIG. 9). As the velocity increase, the thickness of the coating agent will increase (See FIG. 9). Iwasaki also teaches that in prior art that wrinkles are produced on the surface side of the web (film) when the web is thin (column 2, lines 5-10) from the clamping force of the rolls (column 2, lines 5-10). It is the position of the examiner that one would adjust the rotational rate and running rate of the film by increasing the thickness of the film in order achieve smoothness and prevent wrinkles from occurring in the film. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a gravure coating apparatus as disclosed by Iwasaki et al. in applying the film of modified Kuwabara in view of Fergason et al. to prevent wrinkling of the film on its surface side as well as to increase film thickness to achieve smoothness in film.

15. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Kawasato et al. (US 6,902,791 B2) as evidenced by BYK Additives & Instruments Data Sheet (2008) as applied to claim 17 above, and further in view of Ogawa et al. (US 2004/0071883).

With respect to claim 19, Kuwabara in view of Fergason et al. disclose the film as applied to claim 17 above along with drying of the film (paragraph [0219]). However, Kuwabara in view of Fergason et al. fail to disclose the use of a gravure coating apparatus in preparing a film roll. Ogawa et al discloses a method and apparatus for coating a thin film comprising a reverse

gravure coating type roll (paragraph [0033] and Figure 1) wherein apparatus (100) has a gravure roll (1) is made of ceramic (paragraph [0098]) and a doctor blade (3) that is capable of scrapping off the excess coating solution (paragraph [0099]) by coming in contact with the gravure roll (paragraph [0100]). The excess coating solution is recycled to the coating solution supply (61) by the coating solution recovery portion 73 (paragraph [0057]). In the case that the diameter of the gravure roll is too low, when the doctor blade (3) is pressed against the gravure roll (1), the roll is bent so much causing unevenness of coating due to the rotation of the roll (paragraph [0091]). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a reverse gravure method with a diameter of 15 mm or more as disclosed within Ogawa et al. in applying the image forming material Kuwabara in view of Fergason et al. to prevent unevenness of the coating.

16. Claims 20 -21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Kawasato et al. (US 6,902,791 B2) as evidenced by BYK Additives & Instruments Data Sheet (2008) as applied to claims 1 and 13 above, and further in view of Iwasaki et al. (US 4,948,635).

With respect to claim 20 and 21, Kuwabara in view of Fergason et al. disclose the film as applied to claims 1 and 13 above. However, Kuwabara in view of Fergason et al. fail to disclose the use of a gravure coating apparatus and method of in preparing a film roll. Iwasaki et al. discloses a gravure coating device and method wherein the velocity of the gravure roll and of the web affects the thickness of the application of the coating agent (column 12, lines 30-35 and FIG. 9). As the velocity increase, the thickness of the coating agent will increase (FIG. 9). Iwasaki also teaches that in prior art that wrinkles are produced on the surface side of the web

(film) when the web is thin (column 2, lines 5-10) from the clamping force of the rolls (column 2, lines 5-10). It is the position of the examiner that one would adjust the rotational rate and running rate of the film by increasing the thickness of the film in order achieve smoothness and prevent wrinkles from occurring in the film. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a gravure coating apparatus as disclosed by Iwasaki et al. in applying the film of Kuwabara in view of Fergason et al. to prevent wrinkling of the film on its surface side as well as to increase film thickness to achieve smoothness in film.

17. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Kawasato et al. (US 6,902,791 B2) as evidenced by BYK Additives & Instruments Data Sheet (2008) as applied to claim 20 above, and further in view of Ogawa et al. (US 2004/0071883).

With respect to claim 22, Kuwabara in view of Fergason et al. disclose the process for preparing a near infrared film as applied to claim 20 above along with drying of the film (paragraph [0219]). However, Kuwabara in view of Fergason et al. fail to disclose the use of a gravure coating apparatus in preparing a film roll. Ogawa et al. discloses a method and apparatus for coating a thin film comprising a reverse gravure coating type roll (paragraph [0033] and Figure 1) wherein apparatus (100) has a gravure roll (1) is made of ceramic (paragraph [0098]) and a doctor blade (3) that is capable of scrapping off the excess coating solution (paragraph [0099]) by coming in contact with the gravure roll (paragraph [0100]). The excess coating solution is recycled to the coating solution supply (61) by the coating solution recovery portion 73 (paragraph [0057]). In the case that the diameter of the gravure roll is too low, when the

doctor blade (3) is pressed against the gravure roll (1), the roll is bent so much causing unevenness of coating due to the rotation of the roll (paragraph [0091]). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a reverse gravure method with a diameter of 15 mm or more as disclosed within Ogawa et al. in applying the image forming material of Kuwabara in view of Fergason et al. to prevent unevenness of the coating.

18. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Kawasato et al. (US 6,902,791 B2) as evidenced by BYK Additives & Instruments Data Sheet (2008) as applied to claim 20 above, and further in view of Kubo (US 6,770,430).

With respect to claim 23, Kuwabara in view of Fergason et al. disclose the process for preparing a near infrared film as applied to claim 20 above along with drying of the film (paragraph [0219]) however, Kuwabara in view of Fergason et al. fail to disclose a multi-stage drying process after coating a film on a substrate. Kubo discloses a thermally processed image forming material wherein a coating of material is applied to a substrate and dried with from 25 to 40 degrees C for (at a constant drying rate) and then heated again to 80 degrees C (paragraph [0204]). For preventing uneven processing due to dimensional changes, it is preferred to heat the material the material at 80-115 degrees C for 5 seconds then heating the material from 110 to 140 degree to produce the image (multi-stage heating) (column 29, lines 35-39). It would have been obvious to on of ordinary skill within the art at the time of the invention to apply a multi-stage heating process as disclosed by Kubo et al. to the image forming material of Kuwabara in view of Fergason et al. to prevent uneven processing in the production of an image.

19. Claims 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Kawasato et al. (US 6,902,791 B2) as evidenced by BYK Additives & Instruments Data Sheet (2008) as applied to claims 1, 3, 4, 9 and 13 above and further in view of Shouji et al. (US 5,691,838).

Regarding claim 26-27, Kuwabara in view of Fergason et al. do not explicitly disclose the organic solvent comprises a ketone in the amount in the range of 30% to 80%. However, Shouji et al. disclose infrared-blocking optical filter comprising a transparent film substrate (abstract). Shouji et al. disclose a coating solution comprises a ketone in the range of 30% to 80 % as a dispersing medium. See column 7, lines 54-57 and col. 11, lines 1-5. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a ketone to the coating solution of Kuwabara in view of Fergason et al. because Shouji et al. disclose the ketone is used as a dispersing medium.

20. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Kawasato et al. (US 6,902,791 B2) as evidenced by BYK Additives & Instruments Data Sheet (2008) as applied to claim 1 above, and further in view of Hanada et al. (US 6,734,946).

Regarding claim 25, Kuwabara in view of Fergason et al. do not explicitly disclose a near-absorption layer comprises a remaining solvent, and the concentration of the remaining solvent in the near infrared ray absorption layer is in the range of 0.01 to 5% by mass. However, Hanada et al. disclose a liquid crystal display component and transparent conduction substrate (abstract). Hanada et al. disclose a coated film with a remaining solvent in a concentration of

0.08% allowing for balance and tension strength. See example 1. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a remaining solvent in the film of Kuwabara in view of Fergason et al., because Hanada et al. disclose the remaining solvent allows for balance and tension strength.

Response to Arguments

21. Applicant's arguments with respect to claims 1 and 3-28 have been considered but are moot in view of the new ground(s) of rejection. However, Kuwabara and Fergason et al. continue to disclose a near-absorption film as recited in claims 1-28. Therefore, a new 103(a) rejection is made in view of Kuwabara and Fergason et al.

22. Examiner notes claims 13, 17 and 20 have been amended and therefore, new art can be applied. Therefore, the action is made final based on necessitated amendments. Examiner notes claim 1 has been amended to incorporate the subject matter of claim 2; however, final has been made based on submission of IDS submitted on 01/26/2010.

Conclusion

23. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 01/26/2010 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609.04(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

24. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

/Chanceity N Robinson/
Examiner, Art Unit 1795

/Cynthia H Kelly/
Supervisory Patent Examiner, Art Unit 1795